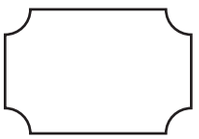
Name _____ Date _____

LESSON 1.6

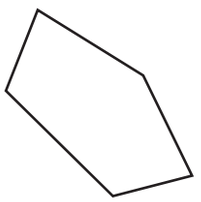
Practice B

For use with pages 42–47

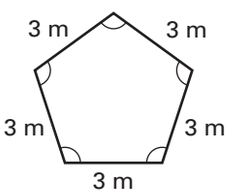
Tell whether the figure is a polygon. If it is not, explain why. If it is a polygon, tell whether it is *convex* or *concave*.

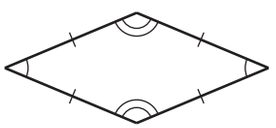
1. 

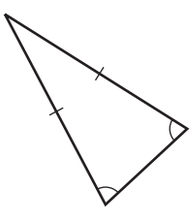
2. 

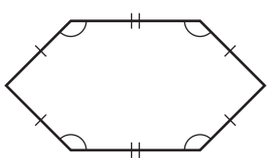
3. 

Classify the polygon by the number of sides. Tell whether the polygon is *equilateral*, *equiangular*, or *regular*. Explain your reasoning.

4. 

5. 

6. 

7. 

8. The lengths (in feet) of two sides of a regular quadrilateral are represented by the expressions $8x - 6$ and $4x + 22$. Find the length of a side of the quadrilateral.

9. The expressions $(3x + 63)°$ and $(7x - 45)°$ represent the measures of two angles of a regular decagon. Find the measure of an angle of the decagon.

10. The expressions $-2x + 41$ and $7x - 40$ represent the lengths (in kilometers) of two sides of an equilateral pentagon. Find the length of a side of the pentagon.

Tell whether the statement is *always*, *sometimes*, or *never* true.

11. A quadrilateral is convex.

12. An octagon is regular.

13. A triangle is concave.

14. A regular polygon is equilateral.

Draw a figure that fits the description.

15. A quadrilateral that is not regular

16. A convex heptagon

17. A concave pentagon

18. An equiangular hexagon that is not equilateral

Name _____ Date _____

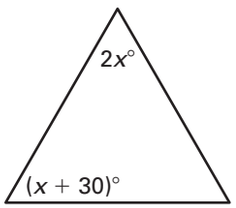
LESSON 1.6

Practice B *continued*

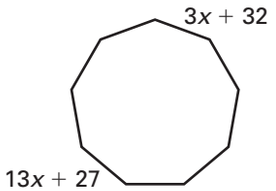
For use with pages 42–47

Each figure is a regular polygon. Find the value of *x*.

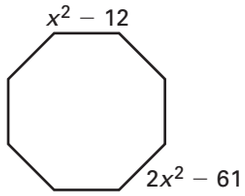
19.



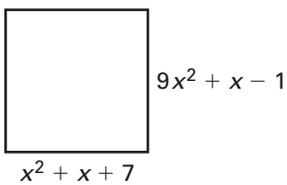
20.



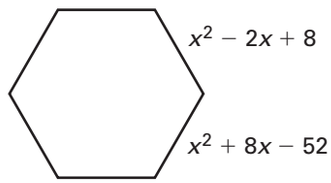
21.



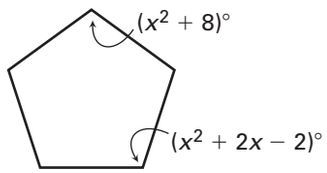
22.



23.

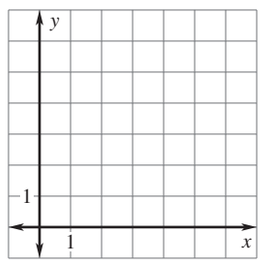


24.

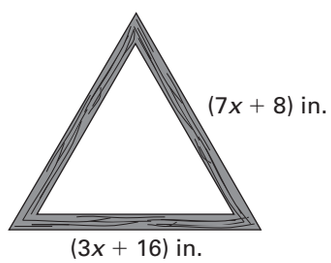


25. The vertices of a figure are given below. Plot and connect the points so that they form a convex polygon. Classify the figure. Then show that the figure is equilateral using algebra.

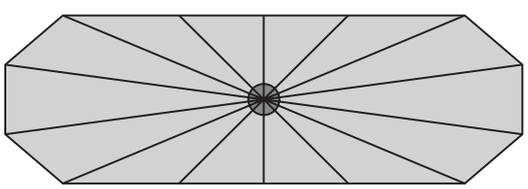
$A(3, 0)$, $B(3, 6)$, $C(2, 3)$, $D(4, 3)$



26. Picture frames A picture frame with a wooden border is a regular triangle, as shown. You want to decorate the frame by wrapping a ribbon around it. How many feet of ribbon are needed to wrap the ribbon around the border one time?



27. Parachutes The canopy of a parachute is shown in the diagram.



a. Is the shape of the canopy a *convex* or *concave* polygon?

b. Classify the polygon by the number of sides. Then use a ruler and a protractor to determine whether the figure is equilateral, equiangular, or regular.

c. Determine the number of lines of symmetry in the canopy. How does this differ from a regular octagon?